

Appln No. 10/747,931
Amdt date March 31, 2005
Preliminary Amendment

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Canceled)
2. (New) A method of recovering information from a received signal comprising:
 - receiving a carrier signal modulated with an information signal;
 - downconverting the carrier signal using a first fixed frequency oscillator to generate at least one downconverted signal;
 - sampling the at least one downconverted signal using a second fixed frequency oscillator to generate at least one digital signal; and
 - processing the at least one digital signal to generate an output signal representative of the information signal.
3. (New) The method of claim 2 wherein the at least one downconverted signal is at least one baseband signal.
4. (New) The method of claim 2 wherein the at least one downconverted signal is an IF signal.

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5. (New) The method of claim 2 wherein the at least one downconverted signal comprises in-phase and quadrature signals.

6. (New) The method of claim 2 wherein the processing comprises complex multiplying the at least one digital signal with at least one signal.

7. (New) The method of claim 2 wherein the processing comprises performing variable interpolation operations.

8. (New) The method of claim 2 wherein the processing comprises:

complex multiplying the at least one digital signal with at least one signal to generate at least one multiplied signal; and
performing variable interpolation on the at least one multiplied signal.

9. (New) The method of claim 2 wherein the processing comprises regulating, by a carrier recovery loop, a frequency at which the output signal is generated.

10. (New) The method of claim 2 wherein the processing comprises regulating, by a symbol recovery loop, a sampling time associated with the output signal.

11. (New) The method of claim 2 wherein the processing comprises:

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regulating, by a carrier recovery loop, a frequency at which the output signal is generated; and

regulating, by a symbol recovery loop, a sampling time associated with the output signal.

12. (New) A method of recovering information from a received signal comprising:

receiving a carrier signal modulated with an information signal;

subsampling the carrier signal using a fixed frequency oscillator to generate at least one digital IF signal; and

processing the at least one digital IF signal to generate an output signal representative of the information signal.

13. (New) The method of claim 12 wherein the processing comprises complex multiplying the at least one digital IF signal with at least one signal to generate at least one multiplied signal.

14. (New) The method of claim 13 wherein the processing comprises performing variable interpolation on the at least one multiplied signal.

15. (New) The method of claim 12 wherein the processing comprises regulating, by a carrier recovery loop, a frequency at which the output signal is generated.

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16. (New) The method of claim 12 wherein the processing comprises regulating, by a symbol recovery loop, a sampling time associated with the output signal.

17. (New) A method of recovering information from a received signal comprising:

receiving a signal modulated with an information signal;
sampling the received signal using a first fixed frequency oscillator to generate at least one digital signal;
complex multiplying the at least one digital signal with at least one signal to generate at least one multiplied signal; and
processing the at least one multiplied signal to generate an output signal representative of the information signal.

18. (New) The method of claim 17 wherein the processing comprises performing variable interpolation.

19. (New) The method of claim 17 wherein the complex multiplying comprises a portion of operations performed by a carrier recovery loop that regulates a frequency at which the output signal is generated.

20. (New) The method of claim 17 wherein the processing comprises regulating, by a symbol recovery loop, a sampling time associated with the output signal.

21. (New) The method of claim 17 comprising downconverting the received signal using a second fixed

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frequency oscillator to generate at least one downconverted signal, wherein sampling the received signal comprises sampling the at least one downconverted signal.

22. (New) The method of claim 21 wherein the at least one downconverted signal comprises at least one baseband signal.

23. (New) The method of claim 17 wherein the at least one digital signal comprises at least one IF signal.

24. (New) A method of recovering information from a received signal comprising:

receiving a signal modulated with an information signal;
sampling the received signal to generate at least one digital signal;

complex multiplying the at least one digital signal with at least one signal to generate at least one multiplied signal;

regulating a sampling time associated with the at least one multiplied signal to generate at least one regulated signal; and

processing the at least one regulated signal to generate an output signal representative of the information signal.

25. (New) The method of claim 24 wherein the regulating comprises performing variable interpolation.

26. (New) The method of claim 24 wherein the complex multiplying comprises a portion of operations performed by a

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carrier recovery loop that regulates a frequency at which the output signal is generated.

27. (New) The method of claim 24 wherein the regulating comprises regulating, by a symbol recovery loop, a sampling time associated with the output signal.

28. (New) The method of claim 24 wherein the sampling comprises sampling the received signal using a fixed frequency oscillator.

29. (New) The method of claim 24 comprising downconverting the received signal using a fixed frequency oscillator to generate at least one downconverted signal, wherein sampling the received signal comprises sampling the at least one downconverted signal.

30. (New) The method of claim 29 wherein the at least one downconverted signal comprises at least one baseband signal.

31. (New) The method of claim 24 wherein the at least one digital signal comprises at least one IF signal.

32. (New) A method of recovering information from a received signal comprising:

receiving a signal modulated with an information signal;
sampling the received signal to generate at least one digital signal;

processing the at least one digital signal to generate trigonometric function signals associated with the at least one digital signal;

processing the at least one digital signal by regulating, in accordance with the trigonometric function signals, a frequency at which at least one processed digital signal is generated; and

processing the at least one processed digital signal to generate an output signal representative of the information signal.

33. (New) The method of claim 32 wherein the regulating comprises complex multiplying the at least one digital signal with the trigonometric function signals to generate the at least one processed digital signal.

34. (New) The method of claim 32 wherein processing the at least one processed digital signal comprises performing variable interpolation.

35. (New) The method of claim 32 wherein the regulating is performed by a carrier recovery loop.

36. (New) The method of claim 32 wherein processing the at least one processed digital signal comprises regulating, by a symbol recovery loop, a sampling time associated with the output signal.

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37. (New) The method of claim 32 wherein the sampling comprises sampling the received signal using a fixed frequency oscillator.

38. (New) The method of claim 32 comprising downconverting the received signal using a fixed frequency oscillator to generate at least one downconverted signal, wherein sampling the received signal comprises sampling the at least one downconverted signal.